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[JJ] Evening Poster | B (Biogeosciences) | B-BG Biogeosciences & Geosphere-Biosphere Interactions

## [B-BG02] Interrelation between Life, Water, Mineral, and Atmosphere

convener: Ken Takai (Extremobiosphere Research Center, Japan Agency for Marine-Earth Science & Technology), Kentaro Nakamura (Department of Systems Innovation, School of Engineering, University of Tokyo), Yuichiro Ueno (東京工業大学大学院地球惑星科学専攻, 共同), Yohey Suzuki (Graduate School of Science, The University of Tokyo)

Mon. May 21, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

Life on Earth is based on a diversity of physical and chemical dynamics and processes throughout the history. Interaction between life, water, mineral (rock) and atmosphere is a key to understand co-evolution of Life and Earth. It is a brief since the pioneers proposed this session almost 20 years ago. Current JpGU meeting is filled with international- and interdisciplinary-joint sessions with similar aims to this session in responding to surrounding situations of JpGU and earth science field in Japan. Conveners believe that this session has provided an excellent opportunity to discuss such interdisciplinary research results and directions for about 20 years but are also afraid if this session may complete the initial goal. It is a matter for JpGU members to decide. This is a final call whether this session will continue in future. If you need this session, you will submit abstract of your research to this session for oral presentation with your intension. If we have less than 12 abstracts for oral presentation, we will cease this session in 2018. Join to this session!

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## [BBG02-P06] Fe-kaolinite formed in granite saprolite beneath sedimentary kaolin deposits

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Keywords: kaolin, granite saprolite, XAFS

Fe-kaolinite was found from granite saprolite underneath sedimentary kaolin deposits in the Seto district. The clay fractions of granite saprolite consist mostly of kaolinite with subordinate micaceous clay, quartz and feldspars. The kaolinite in clay fractions contained an average 3.30-3.72 wt. % of Fe<sub>2</sub>O<sub>3</sub>, indicative of Fe-kaolinite. Fe+Si was inversely proportional to Al in Fe-kaolinite, indicating coupled substitution between Fe+Si and Al. XANES spectroscopy showed that about 60 to 70 % of Fe in the clay fractions is ferric iron, and EXAFS spectroscopy indicated that Fe is situated in octahedral sites replacing Al. The features of Fe-kaolinite suggest that Fe oxidation occurred with mineral decomposition and elemental leaching during the kaolinization of sedimentary kaolin deposits.